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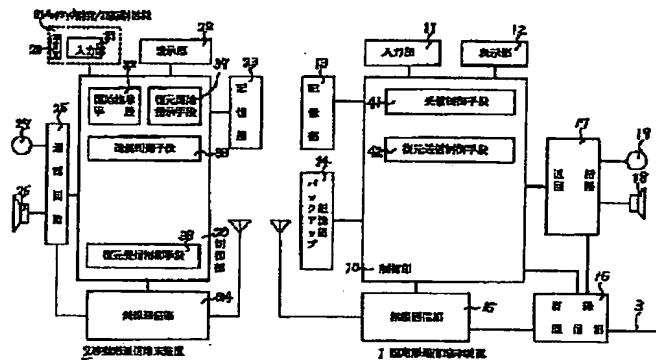
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TITLE : COMMUNICATION SYSTEM

18 translation



ABSTRACT : PROBLEM TO BE SOLVED: To properly protect information of the user stored in a mobile communication terminal equipment.

SOLUTION: Upon the receipt of a backup request from an input section 21, information stored in a storage section 23 provided to a mobile communication terminal equipment 2 is read by a transmission control means 33 and sent via a radio channel set with a permanent virtual connection communication terminal equipment 1. Then the information sent by the permanent virtual connection communication terminal equipment 1 is stored in a reception backup storage section 14 via the radio speech channel by a reception control means 41 of the control section 10 and backed up.

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address book

- backup & Restore - compare for change and synchronize
- no compare for security

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CLAIMS

[Claim(s)]

- [Claim 1] Communication system with which the radio message channel for providing the fixed type communication device which is characterized by providing the following, and which is connected to a wire circuit and a portable-type communication terminal, and sending and receiving data between these fixed type communication device and a portable-type communication terminal is set up. The volatile storage section the information which it is prepared in the aforementioned portable-type communication terminal, and the user of the portable-type communication terminal concerned uses is remembered to be. A backup demand generating means to generate a backup demand of the information memorized by the aforementioned storage section. A start directions means to direct the start of backup processing of the information memorized by the aforementioned storage section in response to a demand of this backup demand generating means. The transmission-control means to which the information which is prepared in the aforementioned portable-type communication terminal, and is memorized by the aforementioned storage section in response to directions of the aforementioned start directions means is made to transmit through the aforementioned radio message channel. The backup storage section for being prepared in the aforementioned fixed type communication device, and copying the information on the aforementioned storage section. A reception-control means to be prepared in the aforementioned fixed type communication device, to receive the information transmitted by the aforementioned transmission-control means in response to directions of the aforementioned start directions means through the aforementioned radio message channel, and to memorize in the aforementioned backup storage section.
- [Claim 2] A start directions means is communication system according to claim 1 characterized by directing the start of backup processing through a message channel to equipments other than the equipment with which oneself is prepared.
- [Claim 3] Communication system according to claim 1 or 2 characterized by preparing the input section for inputting information in a portable-type communication terminal, and diverting this input section to a backup demand generating means.
- [Claim 4] A backup demand generating means is communication system according to claim 1 or 2 characterized by detecting the formation failure of predetermined conditions and generating a backup demand automatically in formation.
- [Claim 5] A backup demand generating means is communication system according to claim 1 or 2 characterized by generating a backup demand automatically at a predetermined-time interval when it has a timer and a timer detects the time of predetermined.
- [Claim 6] A backup demand generating means is communication system according to claim 1 or 2 characterized by sending and receiving information through the communication channel which generated the backup demand when the end of the telephone call which a portable-type communication terminal performs through a wire circuit from a fixed type communication device was detected, and performed the above-mentioned telephone call.
- [Claim 7] Communication system with which the message channel for providing the fixed type communication device which is characterized by providing the following, and which is connected to a public network through a wire circuit and the portable-type communication terminal connected to a public network through a radio circuit, and sending and receiving data through the aforementioned public network between these fixed type communication device and a portable-type communication terminal is set up. The volatile storage section the information which it is prepared in the aforementioned portable-type communication terminal, and the user of the portable-type communication terminal concerned uses is remembered to be. A backup demand generating means to generate a backup demand of the information memorized by the aforementioned storage section. A start directions means to direct the start of backup processing of the information memorized by the aforementioned storage section in response to a demand of this backup demand generating means. The transmission-control means to which the information which is prepared in the aforementioned portable-type communication terminal, and is memorized by the aforementioned storage section in response to directions of the aforementioned start directions means is made to transmit through the message channel by the aforementioned public network. The backup storage section for being prepared in the aforementioned fixed type communication device, and copying the information on the aforementioned storage section. A reception-control means to be prepared in the aforementioned fixed type communication device, to receive the information transmitted by the aforementioned transmission-control means in response to directions of the aforementioned start directions means through the aforementioned message channel, and to memorize in the aforementioned backup storage section.
- [Claim 8] A start directions means is communication system according to claim 7 characterized by directing the start of backup processing through the message channel by the public network to equipments other than the equipment with which oneself is prepared.
- [Claim 9] Communication system according to claim 7 or 8 characterized by preparing the input section for inputting information in a portable-type communication terminal, and diverting this input section to a backup demand generating means.
- [Claim 10] A backup demand generating means is communication system according to claim 1 or 2 characterized by sending and receiving information through the communication channel which generated the backup demand when the end of the telephone call which a portable-type communication terminal performs through a public network between fixed type communication devices was detected, and performed the above-mentioned telephone call.
- [Claim 11] It has a creation means. the difference which creates the difference of the information memorized by the storage section and the information transmitted when backup processing was performed recently in a portable-type communication terminal -- a transmission-control means -- the above -- difference -- while transmitting the information on the difference created by the creation means -- a reception-control means -- the above -- the claim 1 characterized by updating the information on the backup storage section based on the information on difference, or 10 -- being absent -- communication system given in ** 1 term
- [Claim 12] The claim 1 characterized by transmitting information based on the detection result a portable-type communication terminal being equipped with an updating detection means to detect the updating situation of the information memorized by the storage section, and according a transmission-control means] to the above-mentioned updating detection means, or 10 is not, but it is communication system given in ** 1 term.
- [Claim 13] Communication system given in the claim 1 or any 1 term of 12 characterized by providing the following. A restoration demand generating means to generate a restoration demand of the information on the storage section. A restoration start directions means to direct the start of restoration processing of the information on the storage section in response to a demand of this restoration demand generating means. The restoration transmission-control means to which the information which is prepared in the aforementioned fixed type communication device, and is memorized by the aforementioned backup storage section in response to directions of the aforementioned restoration start directions means is made to transmit through a message channel. A restoration reception-control means to be prepared in the aforementioned fixed type

communication device, to receive the information transmitted by the aforementioned restoration transmission-control means in response to directions of the aforementioned restoration start directions means through the aforementioned message channel, and to memorize in the aforementioned storage section.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] This invention relates to the communication system constituted by the fixed type communication device connected to a public network through a wire circuit, and the portable-type communication terminal connected to the above-mentioned fixed type communication terminal or a public network through a radio circuit.

[0002]

[Description of the Prior Art] Conventionally, as communication system of ****, there are some which are called PHS (Personal Handyphone System). Although the main phone which is a fixed type communication terminal is installed in a home etc. in this PHS, it is possible to access a public network through the base station which carries out the cordless handset which is a portable-type communication terminal not only to the radio range of main phones, such as a home, but to the outdoors, and is installed in the outdoors, and to call a partner terminal, or to answer a call from a base station, and to perform the telephone call with a partner terminal.

[0003] By the way, even if it is in a cordless handset, it is memorizable [a user's information, such as abbreviated dialing information,]. However, since the cordless handset has received the electric power supply by the dc-battery, if a dc-battery is turned off, a user's information memorized above may disappear. Moreover, a user's information may disappear from problems, such as vibration by carrying.

[0004]

[Problem(s) to be Solved by the Invention] The above-mentioned problem is a problem of not only PHS but a move machine with the same composition. And even the terminal with which recovery memorizes difficult information like the various data on work from the equipment which memorizes comparatively recoverable information like abbreviated dialing information to a move machine is various. If the information on such a move machine is lost, recovery takes time, or recovery is difficult and a certain cure is demanded.

[0005] this invention tended to meet the request to such conventional communication system, it was made, and the purpose is offering the possible communication system of protecting more appropriately a user's information memorized by the portable-type communication terminal.

[0006]

[Means for Solving the Problem] The fixed type communication device by which communication system according to claim 1 is connected to a wire circuit, It is the communication system with which the radio message channel for providing a portable-type communication terminal, and sending and receiving data between these fixed type communication device and a portable-type communication terminal is set up. The volatile storage section the information which it is prepared in the aforementioned portable-type communication terminal, and the user of the portable-type communication terminal concerned uses is remembered to be, A backup demand generating means to generate a backup demand of the information memorized by the aforementioned storage section, A start directions means to direct the start of backup processing of the information memorized by the aforementioned storage section in response to a demand of this backup demand generating means, The transmission-control means to which the information which is prepared in the aforementioned portable-type communication terminal, and is memorized by the aforementioned storage section in response to directions of the aforementioned start directions means is made to transmit through the aforementioned radio message channel, The backup storage section which is prepared in the aforementioned fixed type communication device, and copies the information on the aforementioned storage section, It is characterized by providing a reception-control means to be prepared in the aforementioned fixed type communication device, to receive the information transmitted by the aforementioned transmission-control means in response to directions of the aforementioned start directions means through the aforementioned radio message channel, and to memorize in the aforementioned backup storage section. The information which the information memorized by the storage section prepared in the portable-type communication terminal if a backup demand occurs is transmitted through the aforementioned radio message channel by this, and is transmitted by the aforementioned transmission-control means in a fixed type communication device is received through the aforementioned radio message channel, and is memorized by the aforementioned backup storage section.

[0007] In communication system according to claim 2, a start directions means is characterized by directing the start of backup processing through a message channel to equipments other than the equipment with which oneself is prepared. Backup processing can be started by this, without preparing a special channel.

[0008] In communication system according to claim 3, the input section for inputting information is prepared in the portable-type communication terminal, and it is characterized by diverting this input section to a backup demand generating means. By this, a backup demand can be generated from the input section.

[0009] In communication system according to claim 4, a backup demand generating means is characterized by detecting the formation failure of predetermined conditions and generating a backup demand automatically in formation. Backup of user information is made without generating a backup demand automatically in predetermined condition formation, and a user being conscious with this.

[0010] In communication system according to claim 5, when a backup demand generating means is equipped with a timer and detects the time of predetermined with a timer, it is characterized by generating a backup demand automatically at a predetermined-time interval. Thereby, backup of user information is taken at intervals of predetermined time or a predetermined time.

[0011] In communication system according to claim 6, when a backup demand generating means detects the end of the telephone call which a portable-type communication terminal performs through a wire circuit from a fixed type communication device, it generates a backup demand, and it is characterized by sending and receiving information through the communication channel which performed the above-mentioned telephone call. Thereby, it can back up through the message channel used for the telephone call concerned after the usual telephone call.

[0012] The fixed type communication device by which communication system according to claim 7 is connected to a public network through a wire circuit, The portable-type communication terminal connected to a public network through a radio circuit is provided. It is the communication system with which the message channel for sending and receiving data through the aforementioned public network between these fixed type communication device and a portable-type communication terminal is set up. The volatile storage section the information which it is prepared in the aforementioned portable-type communication terminal, and the user of the portable-type communication terminal concerned uses is

remembered to be, A backup demand generating means to generate a backup demand of the information memorized by the aforementioned storage section, A start directions means to direct the start of backup processing of the information memorized by the aforementioned storage section in response to a demand of this backup demand generating means, The transmission-control means to which the information which is prepared in the aforementioned portable-type communication terminal, and is memorized by the aforementioned storage section in response to directions of the aforementioned start directions means is made to transmit through the message channel by the aforementioned public network, The backup storage section which is prepared in the aforementioned fixed type communication device, and copies the information on the aforementioned storage section, It is characterized by providing a reception-control means to be prepared in the aforementioned fixed type communication device, to receive the information transmitted by the aforementioned transmission-control means in response to directions of the aforementioned start directions means through a message channel, and to memorize in the aforementioned backup storage section. The information which the information memorized by the storage section prepared in the portable-type communication terminal if a backup demand occurs is transmitted through the aforementioned public network and a message channel by this, and is transmitted by the aforementioned transmission-control means in a fixed type communication device is received from the aforementioned public network through a message channel, and is memorized by the aforementioned backup storage section.

[0013] In communication system according to claim 8, a start directions means is characterized by directing the start of backup processing through the message channel by the public network to equipments other than the equipment with which oneself is prepared. Backup processing can be started by this, without preparing a special channel.

[0014] In communication system according to claim 9, the input section for inputting information is prepared in a portable-type communication terminal, and it is characterized by diverting this input section to a backup demand generating means. By this, a backup demand can be generated from the input section.

[0015] In communication system according to claim 10, a backup demand generating means generates a backup demand, when the end of the telephone call which a portable-type communication terminal performs through a public network between fixed type communication devices is detected, and it is characterized by sending and receiving information through the communication channel which performed the above-mentioned telephone call. Thereby, it can back up through the message channel used for the telephone call concerned after the usual telephone call.

[0016] the difference which creates the difference of the information memorized by the storage section and the information transmitted when backup processing was performed recently to a portable-type communication terminal in communication system according to claim 11 -- a creation means has -- having -- a transmission-control means -- the above -- difference -- while transmitting the information on the difference created by the creation means -- a reception-control means -- the above -- it is characterized by to update the information on the backup storage section based on the information on difference Only difference is transmitted by this and an air time and the amount of data transmission can be suppressed by it.

[0017] In communication system according to claim 12, a portable-type communication terminal is equipped with an updating detection means to detect the updating situation of the information memorized by the storage section; and a transmission-control means is characterized by transmitting information based on the detection result by the above-mentioned updating detection means. When there is no change in the information on the storage section, transmission is not performed by this, but useless transmitting processing is prevented by it.

[0018] A restoration demand generating means by which communication system according to claim 13 generates a restoration demand of the information on the storage section, A restoration start directions means to direct the start of restoration processing of the information on the storage section in response to a demand of this restoration demand generating means, The restoration transmission-control means to which the information which is prepared in the aforementioned fixed type communication device, and is memorized by the aforementioned backup storage section in response to directions of the aforementioned restoration start directions means is made to transmit through a message channel, It is characterized by providing a restoration reception-control means to be prepared in the aforementioned fixed type communication device, to receive the information transmitted by the aforementioned restoration transmission-control means in response to directions of the aforementioned restoration start directions means through the aforementioned message channel, and to memorize in the aforementioned storage section. Thereby, the content of the storage section of a fixed type communication device can be restored from a user's backed-up information.

[0019]

[Embodiments of the Invention] With reference to an accompanying drawing, the communication system concerning the form of operation of this invention is explained below. In addition, the explanation which gives the same sign to the same component and overlaps it in each drawing is omitted. The communication system concerning the form of operation of this invention is shown in drawing 1. This communication system is constituted by the fixed type communication terminal 1 connected to a public network through a wire circuit 3, and the portable-type communication terminal 2. Between the fixed type communication terminal 1 and the portable-type communication terminal 2, the radio message channel for sending and receiving a telephone call **** sake or data is set up.

[0020] That is, the fixed type communication terminal 1 has the composition in which the input section 11, a display 12, the storage section 13, the backup storage section 14, the Radio Communications Department 15, the wire communication section 16, and the speaking circuit 17 were connected to the control section 10 constituted by computer. The fixed type communication terminal 1 receives the arrival which comes through a wire circuit 3 through the wire communication section 16, controls the Radio Communications Department 15 and notifies a call to the portable-type communication terminal 2 using a message channel while generating arrival-of-the-mail sound from the loudspeaker 18 connected to the speaking circuit 17.

[0021] The portable-type communication terminal 2 has the composition in which the input section 21, a display 22, the storage section 23, the Radio Communications Department 24, and the speaking circuit 25 were connected to the control section 20 constituted by computer. It is incorporated by the control section 20 through the Radio Communications Department 24, a control section 20 detects arrival of the mail, and the notice of the call sent through the message channel of a radio circuit as mentioned above generates arrival-of-the-mail sound from the loudspeaker 26 connected to the speaking circuit 25.

[0022] When it answers in the fixed type communication terminal 1, the purport of a response is sent to a public network side through a wire circuit 3 from the control section 10 of the above-mentioned fixed type communication terminal 1, and a control section 10 connects the channel between the wire communication section 16 and a speaking circuit 17, and it is made for the telephone call of it which minds a wire circuit 3 using a loudspeaker 18 and a microphone 19 to be attained in the above.

[0023] When it answers in the portable-type communication terminal 2 to the above, the control section 20 of the portable-type communication terminal 2 sends out a response to a control section 10 through the above-mentioned message channel. Thereby, by the radio message channel, a control section 10 connects the channel of the wire communication section 16 and the Radio Communications Department 15, and puts the signal of a wire circuit 3 on the above-mentioned radio message channel, and puts the signal of a radio message channel on a wire circuit 3, and enables the telephone call by the portable-type communication terminal 2. On the other hand, the control section 20 of the portable-type communication terminal 2 connects between the above-mentioned radio message channel and the Radio Communications Department 24 and between the Radio Communications Department 24 and speaking circuits 25. Thereby, a wire circuit 3 and a speaking

circuit 25 are connected, and the telephone call through the fixed type communication terminal 1 and a wire circuit 3 is attained using a loudspeaker 26 and a microphone 27.

[0024] In the above-mentioned communication system, when sending, operation is made as follows. First, in order to perform dispatch from the fixed type communication terminal 1, a dispatch demand is inputted from the input section 11, and a control section 10 sends through the wire communication section 16 according to this. On the other hand, in performing dispatch from the portable-type communication terminal 2, according to the dispatch demand from the input section 21, a control section 20 controls the Radio Communications Department 24, and sends out a dispatch demand through a control channel. The situation which assigned the message channel as for which the control section 10 is vacant in response, the call setup was performed through the message channel, the control section 10 connected a wire circuit 3 and the Radio Communications Department 15 through the wire communication section 16, and it is made for a ring back tone to come, put this on the message channel, and was connected to the network from the wire circuit 3 through the message channel at the portable-type communication terminal 2 side is realized.

[0025] In addition to the above voice telephone call, various data, such as character data and image data, can be sent and received through the above-mentioned message channel. The application of a word processor is started by equipping control sections 10 and 20 with the word processor as application, for example, performing "#", "*", and a key stroke. During operation of this application, an individual telephone number book can be created using the key of the input section 11 (21) as shown in drawing 2. For example, information as switched kanji input mode and number input mode, used the "*" key as conversion / next candidate key, used it using the "#" key and shown in drawing 4 is created.

[0026] The key of the input section 11 (21) is equipped for example, with a up / down arrow key, a "*" key, and a "call" key, the name of a telephone number book can be chosen by the up / down arrow key, and a "*" key can be operated and sent, and the name of a telephone number book can be chosen by the up / down arrow key, a "*" key can be operated, and the content can be updated. Thus, the created data are memorized by the storage sections 13 and 23 as personal information (user information) by the predetermined key stroke after the end of the application by the predetermined key stroke. When for example, a portable-type communication terminal (cordless handset) has A, B, and three C, the storage section 13 is divided into common area and the individual area of cordless handsets A, B, and C as shown in drawing 5. data - a cordless handset - if correspondence memorizes and it specifies that it is common data, it will memorize in common area. The individual area of cordless handsets A, B, and C is good also as composition diverted to the backup storage section 14.

[0027] It can be held and walked along the portable-type communication terminal 2, and it can be sent through the base transceiver station currently established in the street, and can receive arrival of the mail through the base transceiver station concerned by position registration. If the portable-type communication terminal 2 obtains power with a dc-battery, and is operating, therefore a dc-battery is turned off, the data memorized by the storage section 23 will disappear.

[0028] Then, it sets in the gestalt of operation of the 1st of this invention. A backup demand means 31 to generate a backup demand of the information memorized by the above-mentioned storage section 23 in the control section 20 of the portable-type communication terminal 2. A start directions means 32 to direct the start of backup processing of the information memorized by the above-mentioned storage section 23 in response to a demand of this backup demand means 31. The transmission-control means 33 to which the information memorized by the aforementioned storage section 23 in response to directions of the above-mentioned start directions means 32 is made to transmit through the above-mentioned radio message channel is established.

[0029] In the above, the input section 21 is diverted to the backup demand means 31. That is, a backup demand can be generated by the predetermined key stroke of the input section 21. On the other hand, the control section 10 of the fixed type communication terminal 1 is equipped with a reception-control means 41 to receive the information transmitted by the above-mentioned transmission-control means 33 in response to directions of the above-mentioned start directions means 32 through the above-mentioned radio message channel, and to memorize in the above-mentioned backup storage section 14. The backup storage section 14 is constituted from the fixed type communication terminal 1 having received power for example, by the commercial alternating current power supply by RAM by which the battery back-up was carried out, and the nonvolatile hard disk drive unit.

[0030] Operation at the time of the personal information backup in the communication system constituted as mentioned above is explained with reference to the communication procedure shown in drawing 3. If a backup demand is inputted from the input section 21, a control section 20 controls the Radio Communications Department 24, and sends out the link channel establishment demand 101 to the fixed type communication terminal 1 through a control channel. A control section 10 receives this through the Radio Communications Department 15, a vacant link (telephone call) channel is detected, and the allocation 102 of the link channel concerned is sent out to the portable-type communication terminal 2 through a control channel. If the synchronous burst 103 is transmitted using the link channel to which the control section 20 was assigned in response to this and a synchronization can be taken, conversely, a control section 10 will transmit the synchronous burst 103 through the above-mentioned link channel, and will perform synchronous establishment. If a synchronization is established, a control section 20 will notify the setting start of a checked type information transfer mode of operation with the SABM signal 104, and the control section 10 which received this will return the check of initial setting with the UA signal 105. Then, a control section 20 notifies the backup start directions 106 to a control section 10. In response, a control section 10 returns the backup receptionist 107. Then, a control section 20 reads the personal information 108 memorized by the storage section 23 as a transmission-control means 33, and transmits this to a control section 10. The control section 10 which received the personal information 108 functions as a reception-control means 41, memorizes this personal information 108 in the applicable area of the backup storage section 14, and returns the confirmation-of-receipt signal 109. The control section 10 which sent the confirmation-of-receipt signal 109 notifies release of a checked type information transfer mode of operation with the DISC signal 110, and the control section 20 which received this returns the check of release with the UA signal 111. Then, the cutting 112 of a radio message channel is notified, and a control section 20 shifts to processing of cutting in response to this, and a control section 10 notifies the completion 113 of cutting to a control section 10, and is ended.

[0031] As mentioned above, according to the gestalt of this operation, when the user of the portable-type communication terminal 2 is required, by operating the input section 21 and generating a backup demand, a radio message channel is set up between the fixed type communication terminals 1, personal information is transmitted through this radio message channel, and backup is achieved in the fixed type communication terminal 1. In addition, in the midst of the above-mentioned backup processing, control sections 10 and 20 display it as "the completion of backup", when it is displayed on displays 12 and 22 as "under backup" and backup is made (when it is arrival of the confirmation of receipt 109), and on the other hand, when backup is not made, they display it as "backup failure" (when the confirmation of receipt 109 does not come). Thereby, it becomes clear, and success un-succeeding [of backup] can use the portable-type communication terminal 2 in comfort after that.

[0032] With the gestalt of the 2nd operation, the backup demand means 31 detects the formation failure of predetermined conditions, and when predetermined conditions are formation, a backup demand is generated automatically. Also in the gestalt of this operation, a backup demand can be generated by the input from the input section 21. When dc-battery capacity becomes below predetermined and the amount of registration of personal information becomes more than predetermined as predetermined conditions here, for example, it is the case where the time of the portable-type communication terminal 2 turns into more than a predetermined time etc. A means to detect whether dc-battery capacity was supervised and it became below predetermined with these gestalten. For example, (the circuit which supervises battery voltage

and detects predetermined sag), It counts by the number of bits or a byte count of the data into which the amount of registration of personal information is inputted etc. The power supply ON time of the circuit and the portable-type communication terminal 2 which detect that counted value became more than predetermined is counted, and it has the circuit which detects whether counted value became more than a predetermined time, respectively.

[0033] Operation at the time of the personal information backup in the communication system constituted as mentioned above is explained with reference to the flow chart shown in drawing 7. If a system is started, the backup demand means 31 will detect the formation failure of predetermined conditions (S1). Here, if predetermined conditions are satisfied, while the backup demand means 31 sends out a backup demand to a control section 20, the lock or reset of the backup demand means 31 will be performed (S2). Thereby, by not starting backup processing of the same information, even if below predetermined is continued for a power supply, when a count is performed from zero and storage capacity and a time are necessary, backup processing is performed. The control section 20 which received the above-mentioned backup demand goes into the communication procedure shown in drawing 3 as stated above, and performs backup processing of personal information with a control section 10 (S3). Thus, according to the gestalt of this operation, backup processing is automatically started by formation of predetermined conditions, and a user can use the portable-type communication terminal 2, without caring about backup.

[0034] With the gestalt of the 3rd operation, as the backup demand means 31 is shown in drawing 1, when it has a timer 28 and a timer 28 detects the time of predetermined, it has the composition of generating a backup demand automatically at a predetermined-time interval. Also in the gestalt of this operation, a backup demand can be generated by the input from the input section 21.

[0035] Operation at the time of the personal information backup in the communication system constituted as mentioned above is explained with reference to the flow chart shown in drawing 8. If a system is started, the backup demand means 31 would supervise progress of the predetermined time from the start of a system with the timer 28, or will have detected arrival of predetermined time (for example, 0:00 a.m.) with the timer 28 (S4). Here, if it becomes arrival of progress of a predetermined time or predetermined time, while the backup demand means 31 generates and sends out a backup demand to a control section 20, reset of the timer 28 of the backup demand means 31 etc. will be performed (S5). It is possible for this to perform backup processing again by detecting arrival of progress of the following predetermined time or predetermined time. The control section 20 which received the above-mentioned backup demand goes into the communication procedure shown in drawing 3 as stated above, and performs backup processing of personal information with a control section 10 (S6). Thus, according to the gestalt of this operation, backup processing is automatically started for every arrival of the predetermined time in the case of progress of a predetermined time, and a user can use the portable-type communication terminal 2, without caring about backup.

[0036] When the end of the telephone call which the portable-type communication terminal 2 performs through a wire circuit 3 from the fixed type communication terminal 1 is detected, the backup demand means 31 consists of gestalten of the 4th operation so that a backup demand may be generated. And personal information is sent and received through the communication channel which talked over the telephone.

[0037] Operation at the time of the personal information backup in the communication system constituted as mentioned above is explained with reference to the flow chart shown in drawing 9. The control section 20 has detected whether the terminating signal sent from the control section 10 of the cover-half communication terminal 1 through a control channel comes, or a dispatch demand is inputted from the input section 21 (S12). (S11) If arrival of the mail is, in processing of channel connection (S13), corresponding to allocation of a link channel being made, generating of ringing tone being made also in the portable-type communication terminal 2, and operation of a response (off-hook) being made in the input section 21 through a control channel, from the establishment demand of a link channel, the purport of a response will be sent to a network side through the fixed type communication terminal 1, and as shown to drawing 10, it will become with 121 during a telephone call. Moreover, if the dispatch demand was inputted, after allocation of a link channel will be made from the establishment demand of a link channel through a control channel, connecting with a network through the portable-type communication terminal 2 in processing of channel connection (S13) and performing a call setup, a ring back tone comes and it shifts to 121 during the telephone call shown in drawing 10 corresponding to the other party answering.

[0038] In 121, the control section 20 has detected the on-hook input (122 of drawing 10) from the input section 21, or the telephone call end by arrival of the disconnect signal (123 of drawing 10) from a network side as a backup demand means 31 during a telephone call (S14). Here, if there is arrival of the disconnect signal (123 of drawing 10) from the on-hook input (122 of drawing 10) side from the input section 21 or a network side, a control section 20 sends out the backup start directions 124, as shown in drawing 10. In response to this, a control section 10 opens the wire communication way formed through the wire circuit 3 (S15). That is, the completion 125 of cutting shown in drawing 10 from a wire circuit 3 to a network side is sent out, only the channel by the side of a public network is cut, and a radio channel presupposes that it is set up. And a control section 20 and a control section 10 perform backup processing (S16).

[0039] That is, as shown in drawing 10, in response to the backup demand directions 124 from a control section 20, a control section 10 returns the backup receptionist 126. Next, a control section 20 notifies the setting start of a checked type information transfer mode of operation with the SABM signal 127, and the control section 10 which received this returns the check of initial setting with the UA signal 128. Then, a control section 20 reads the personal information 129 memorized by the storage section 23 as a transmission-control means 33, and transmits this to a control section 10. The control section 10 which received the personal information 129 functions as a reception-control means 41, memorizes this personal information 129 in the applicable area of the backup storage section 14, and returns the confirmation-of-receipt signal 130. The control section 10 which sent the confirmation-of-receipt signal 130 notifies release of a checked type information transfer mode of operation with the DISC signal 131, and the control section 20 which received this returns the check of release with the UA signal 132. Then, the cutting 133 of a radio message channel is notified, and a control section 20 shifts to processing of cutting in response to this, and a control section 10 notifies the completion 134 of cutting to a control section 10, and is ended. It means that opening (drawing 9, S17) of a radio channel was made at this time.

[0040] As mentioned above, since according to the gestalt of this operation it shifts to backup processing of personal information automatically through the radio message channel then set up after talking over the telephone through the fixed type communication terminal 1 and a wire circuit 3 by the portable-type communication terminal 2, the user of the portable-type communication terminal 2 does not need to back up intentionally, and is convenient. In addition, in this example, although the backup demand means 31 and the start directions means 32 were formed in the control section of the portable-type communication terminal 2, in the gestalt of other operations, the backup demand generating means 31 and the start directions means 32 are formed in the fixed type communication terminal 1. Thus, like the communication system concerning the gestalt of implementation of the above 4th, even if constituted, after talking over the telephone through a wire circuit 3, through the radio message channel then set up, backup processing of personal information is made automatically and suitable backup of personal information is guaranteed.

[0041] With the gestalt of the 5th operation, it has the composition for backing up, when the portable-type communication terminal 2 is carried out to the outdoors. That is, as this communication system is shown in drawing 11, the fixed type communication terminal 1 is connected to the wire communication network 4 through the wire circuit (wire communication way) 3, and the portable-type communication terminal 2 is connected to the base station of the radio network 5 through a radio channel 6. The wire communication network 4 and the radio network 5 are mutually connected through the communication network connection 7. Of course, a communicative network should just be the composition that it does not need to be constituted by the wire communication network 4 and the radio network 5, and the portable-type communication terminal

2 is connected to the base station of a public network through a radio channel 6.

[0042] A backup demand generating means 31 to generate the backup demand of the information memorized by the storage section 23 like the gestalt of the 1st operation shown in drawing 1 with the gestalt of this 5th operation, A start directions means 32 to direct the start of backup processing of the information memorized by the above-mentioned storage section 23 in response to a demand of this backup demand means 31. The transmission-control means 33 to which the information memorized by the aforementioned storage section 23 in response to directions of the above-mentioned start directions means is made to transmit through the message channel by the public network is established. Moreover, the input section 21 is diverted to the backup demand generating means 31. That is, a backup demand can be generated by the predetermined key stroke of the input section 21.

[0043] On the other hand, the control section 10 of the fixed type communication terminal 1 is equipped with a reception-control means 41 to receive the information transmitted by the above-mentioned transmission-control means 33 in response to directions of the above-mentioned start directions means 32 through the message channel by the above-mentioned public network, and to memorize in the above-mentioned backup storage section 14.

[0044] Operation at the time of the personal information backup in the communication system constituted as mentioned above is explained with reference to the communication procedure shown in drawing 12: If a backup demand is inputted from the input section 21, a control section 20 controls the Radio Communications Department 24, and sends out a link channel establishment demand to the base station of the radio network 5 through a control channel. A base station receives this through a radio channel 6, a vacant link (telephone call) channel is detected, and allocation of the link channel concerned is sent out to the portable-type communication terminal 2 through a control channel. In response to this, a control section 20 transmits a synchronous burst using the assigned link channel, synchronous establishment is made, a synchronous burst is transmitted to an opposite direction and synchronous establishment is made. After this, a call setup is made using the link channel concerned, and the call to the fixed type communication terminal 1 and the return from the public network side of the ring back tone to the portable-type communication terminal 2 are made. In the fixed type communication terminal 1, if the above-mentioned call is answered, a reply signal is notified to the portable-type communication terminal 2, thereby, a control section 20 will connect the Radio Communications Department 24 and a speaking circuit 25, and the voice telephone call of it will be attained.

[0045] With the form of this operation, after shifting to the state of a voice telephone call as mentioned above, it shifts to backup processing as shown in drawing 12. In 140, a control section 20 sends out the backup start directions 141 from the Radio Communications Department 24 first during a telephone call. A control section 10 receives this and the backup receptionist 142 is returned. The control section 20 which received this reads the personal information memorized by the storage section 23 as a transmission-control means 33, and transmits this personal information 143 to a control section 10. The control section 10 which received the personal information 143 functions as a reception-control means 41, memorizes this personal information in the applicable area of the backup storage section 14, and returns the confirmation-of-receipt signal 144. The control section 20 which received the confirmation-of-receipt signal 144 sends out disconnect-request 145A to a public network. Then, a public network notifies cutting 145B to the fixed type communication terminal 1. In response to this, a control section 10 sends out release 146A to a public network. In response to this, a public network notifies release 146B to the portable-type communication terminal 2. A control section 20 sends out completion of release 147A to a public network while preparing release. In response, a public network notifies completion of release 147B to the fixed type communication terminal 1, and the message channel (link channel) set up between the fixed type communication communication terminal 1 and the portable-type communication terminal 2 is released.

[0046] As mentioned above, according to the gestalt of this operation, when the user of the portable-type communication terminal 2 is required, by operating the input section 21 and generating a backup demand, the message channel which minds a public network between the fixed type communication terminals 1 is set up, personal information is transmitted through this message channel, and backup is achieved in the fixed type communication terminal 1. In addition, in the midst of the above-mentioned backup processing, control sections 10 and 20 display it as "the completion of backup", when it is displayed on displays 12 and 22 as "under backup" and backup is made (when it is arrival of the confirmation of receipt 109), and on the other hand, when backup is not made, they display it as "backup failure" (when the confirmation of receipt 109 does not come). Thereby, it becomes clear, and that backup processing is made and its success un-succeeding can use the portable-type communication terminal 2 in comfort after that.

[0047] With the gestalt of the 6th operation, the backup demand means 31 detects the formation failure of predetermined conditions, and when predetermined conditions are formation, a backup demand is generated automatically. Also in the gestalt of this operation, since it is the same as that of the gestalt of implementation of the above 5th also about the procedure after performing transmission and reception of personal information through the message channel of a public network like the gestalt of implementation of the above 5th and generating a backup demand also about the procedure, the explanation is omitted. Moreover, detection of a predetermined condition and its condition success or failure is based on the conditions and composition which were already explained in the gestalt of the 2nd operation.

[0048] With the gestalt of the 7th operation, when the backup demand means 31 is equipped with a timer 28 like the gestalt of the 3rd operation and a timer 28 detects predetermined time, it has the composition of generating a backup demand automatically at a predetermined-time interval. Also in the gestalt of this operation, a backup demand can be generated by the input from the input section 21. Also in the gestalt of this operation, since it is the same as that of the gestalt of implementation of the above 5th also about the procedure after performing transmission and reception of personal information through the message channel of a public network like the gestalt of implementation of the above 5th and generating a backup demand, the explanation is omitted.

[0049] When the backup demand means 31 closes the telephone call which the portable-type communication terminal 2 and the fixed type communication terminal 1 perform through a public network, it consists of gestalten of operation of the octavus so that a backup demand may be generated. And personal information is sent and received through the communication channel in the above-mentioned public network which talked over the telephone. That is, the triggers included in the procedure of drawing 12 are the clear back directions (on hook) in the portable-type communication terminal 2 or the fixed type communication terminal 1. Processing of operation is performed on the basis of the procedure of drawing 12, without this releasing the link channel concerning a telephone call. That is, the portable-type communication terminal 2 or the fixed type communication terminal 1 sends out backup start directions, and the fixed type communication terminal 1 or the portable-type communication terminal 2 returns a backup receptionist in response to this. Then, a control section 20 reads the personal information memorized by the storage section 23 as a transmission-control means 33, and transmits this to a control section 10. Since the processing after this is the same as that of the case of the 5th example explained in drawing 12, the explanation is omitted. the gestalt of the 4th operation is connected to the fixed type communication terminal 1 by the radio message channel from the portable-type communication terminal 2, and the gestalt of this operation catches the end of the telephone call between the portable-type communication terminal 2 and the fixed type communication terminal 1 to having caught the end (others -- the end of the telephone call with a terminal) of the telephone call in the message channel further prolonged to a public network That is, backup processing is started by the end of the telephone call by the public network set up between the communication terminal 2 and the fixed type communication terminal 1.

[0050] Since it shifts to backup processing of personal information automatically through the message channel by the public network then set up when according to the gestalt of this operation the portable-type communication terminal 2 and the fixed type communication terminal 1 talk over the telephone through a public network and become clear back, the user of the portable-type communication terminal 2 does not need to

back up intentionally, and is convenient.

[0051] the difference which creates the difference of the information memorized by the storage section 23 and the information transmitted when backup processing was performed recently to the portable-type communication terminal 2 in the communication system of the gestalt of each above-mentioned implementation with the gestalt of the 9th operation as shown in drawing 13 -- it has the creation means 34 moreover, the transmission-control means 33 -- the above -- difference -- while transmitting the information on the difference created by the creation means 34 -- the reception-control means 41 -- the above -- based on the information on difference, it is constituted so that the information on the backup storage section 14 may be updated

[0052] Specifically, the individual information-storage field of the storage section 23 is divided per an address unit or block of a predetermined capacity, it considers as the gestalt which is easy to ask for difference, and if backup is taken, the flag of a backup end will be set to the above-mentioned address unit or the block unit of a predetermined capacity. And whenever writing takes place in the storage section 23, the flag of a backup end is reset in the above-mentioned address unit or the block unit of a predetermined capacity. And in the case of backup processing, the personal information on the address or the block with which the above-mentioned flag is reset is detected as difference. Since only the information on this difference is sent, a transmission time can be shortened. In this case, the number of the address or a block is added and transmitted to difference, and a control section 10 memorizes the personal information on the backup storage section 14 in the fixed type communication terminal 1 based on this number.

[0053] With the gestalt of the 10th operation, the portable-type communication terminal 2 is equipped with an updating detection means 35 to detect the updating situation of the information memorized by the storage section 23 as shown in drawing 14, and the transmission-control means 33 transmits information to it based on the detection result by the above-mentioned updating detection means 35. Specifically, the control section 20 has detected whether renewal of the personal information in the storage section 23 by the information input from input section 21 grade is made, as shown in drawing 15 (S21). And the update flag will be set if there is renewal of personal information (S22). On the other hand, the control section 20 has detected formation of the conditions (the conditions said here are all other than a telephone call end, they correspond in addition to the gestalt of the 4th operation, and the gestalt of the 7th operation, and as shown in drawing 16, they include the backup demand operation from the input section 21.) of generating of a backup demand (S23). And formation of conditions detects whether updating is made with reference to an update flag (S24). Without starting backup processing irrespective of generating of a backup demand, when updating is not made, again, it returns to Step S23 and processing is continued. On the other hand, when renewal of personal information is made, backup start directions are sent out and an update flag is reset (S25). Furthermore, backup processing is performed (S26), it returns to Step S23 after the end of this processing, and processing is continued.

[0054] With reference to processing drawing 17 of the gestalt of the operation constituted so that processing corresponding to the gestalt of the 4th operation and the gestalt (gestalt of operation which shifts to backup processing at the time of a telephone call end) of the 7th operation might be performed, it explains to the gestalt of implementation of the above 10th. The control section 20 has detected the end of a telephone call, as the gestalt of the 4th operation and the gestalt of the 7th operation already explained (S31). And detection of that the telephone call was completed detects whether updating is made with reference to an update flag (S32). when updating is not made, it is alike instantly and line disconnection of the message channel concerning a telephone call is performed (S35). On the other hand, when renewal of personal information is made, backup start directions are sent out and an update flag is reset (S33). Furthermore, backup processing is performed (S34), it progresses to Step S35 after the end of this processing, and line disconnection processing of the message channel concerning a telephone call is performed (S35).

[0055] The increase in efficiency of processing can be attained without according to the gestalt of operation concerning the gestalt of the 10th above-mentioned operation, and its deformation, making unnecessary processing, since backup processing is not performed, when personal information is not updated. And the gestalt of the operation constituted so that only difference may be transmitted exists as personal information concerning backup processing combining the gestalt of this operation, and the gestalt of the 9th operation. With the gestalt of this operation, reduction-izing of the amount of transmission and the increase in efficiency of processing can be attained. in addition -- although it controlled whether the existence of renewal of personal information would be detected and backup processing would be started above -- the amount of the renewal of personal information with the gestalt of other operations -- a bit -- or a byte -- or it controls whether backup processing is started by blocked information [how many addresses or] was updated The increase in efficiency of processing can be attained without this starting backup processing at the time of renewal of few information.

[0056] As shown in drawing 1, drawing 13, and drawing 14, with the gestalt of each above operation to the portable-type communication terminal 2 A demand of a restoration demand generating means 36 to generate a restoration demand of the information on the storage section 23, and this restoration demand generating means 36 is received. It has a restoration start directions means 37 to direct the start of restoration processing of the information on the storage section 23. It has a restoration transmission-control means 42 to make the information memorized by the backup storage section 14 in response to directions of the above-mentioned restoration start directions means 37 transmit to the fixed type communication terminal 1 through a message channel. Furthermore, the above-mentioned portable-type communication terminal 2 is equipped with a restoration reception-control means 38 to receive the information transmitted by the aforementioned restoration transmission-control means 42 in response to directions of the above-mentioned restoration start directions means 37 through the above-mentioned message channel, and to memorize in the above-mentioned storage section 23. Also in this example of composition, it is diverted to the input section 21 restoration demand generating means 36 for inputting information.

[0057] With the gestalt of this operation, the user of the portable-type communication terminal 2 inputs a restoration demand from the input section 21, and generates a restoration demand. If the control section 20 is supervising generating of a restoration demand in this system as shown in the flow chart of drawing 18 (S41), and a restoration demand is generated, as shown in drawing 3, establishment processing of a link channel is carried out, information is sent and received by procedure like drawing 3 between control sections 10, it replaces with to backup start directions, and a control section 20 sends out restoration indication directions (S42). Henceforth, the procedure shown in drawing 3 teaches, personal information will be transmitted to the portable-type communication terminal 2 from the fixed type communication terminal 1, and restoration processing which consists of the storage section 23 memorizing will be performed (S43).

[0058] Thus, according to the gestalt of this operation, the portable-type communication terminal 2 can be brought back to the installation of the fixed type communication terminal 1, and the personal information backed up to the fixed type communication terminal 1 can be restored to the portable-type communication terminal 2 only by inputting a restoration demand from the input section 21.

[0059] In addition, in the form of the above-mentioned operation, although it explained noting that backup information is memorized to one field, the form of the operation by which two or more fields are assigned to one cordless handset also exists. That is, as shown in drawing 6, two or more fields are assigned to one cordless handset. And when this field is used cyclically and 1 round is taken, overwrite is performed to the field of the oldest information. And in the case of restoration, call the information on which field and it is made to restore, or directions are given from the input section 21, this is sent to a control section 10 from a control section 20, and the personal information on a field that it corresponds is read and restored. With the form of this operation, one kind of data is not updated like the telephone number as personal information. The information concerning an experimental result with the need of taking a history etc. is collected in the place distant from the fixed type communication terminal 1 etc. It is made to back up one after another and returns to the installation of the fixed type communication terminal 1

after this processing end, and it is being begun to read the contents of backup one after another, operation, such as performing data analysis, can be taken, and it is convenient.

[0060] In addition, in each example, there is a form of not only a keyboard but the operation which adopts the equipment of the type which inputs the character which could adopt the transparent tablet input unit etc., constituted this tablet input unit in piles in the display 22, and was displayed, and a sign as the input section 21. Also in the form of this operation, suitable backup can be guaranteed like the form of each above-mentioned implementation.

[0061]

[Effect of the Invention] If a backup demand occurs according to communication system according to claim 1 as explained above The information memorized by the storage section prepared in the portable-type communication terminal is transmitted through the aforementioned radio message channel. Since the information transmitted by the aforementioned transmission-control means in a fixed type communication terminal is received through the aforementioned radio message channel and memorized by the aforementioned backup storage section When a portable-type communication terminal is in the radio area of a fixed type communication terminal, suitable backup can be performed, and the fault information disappears can be abolished.

[0062] Backup processing can be started without preparing a special channel according to communication system according to claim 2, as explained above.

[0063] According to communication system according to claim 3, as explained above, by generating a backup demand from the input section, informational backup can be produced, and when a user is arbitrary, backup can be taken.

[0064] As explained above, backup of user information is made without according to communication system according to claim 4, generating a backup demand automatically in predetermined condition formation, and a user being conscious, and it is convenient.

[0065] As explained above, according to communication system according to claim 5, at intervals of predetermined time or a predetermined time, backup of user information is taken and exact backup processing is guaranteed.

[0066] As explained above, according to communication system according to claim 6, it can back up through the message channel used for the telephone call concerned after the usual telephone call, a message channel can be secured specially, and backup processing can be performed.

[0067] If a backup demand occurs according to communication system according to claim 7 as explained above The information memorized by the storage section prepared in the portable-type communication terminal is transmitted through the aforementioned public network and a message channel. Since the information transmitted by the aforementioned transmission-control means in a fixed type communication terminal is received from the aforementioned public network through a message channel and is memorized by the aforementioned backup storage section When it separates from the radio area of a fixed type communication terminal, backup can be taken appropriately and it is convenient.

[0068] Backup processing can be started without preparing a special channel according to communication system according to claim 8, as explained above.

[0069] According to communication system according to claim 9, as explained above, by generating a backup demand from the input section, informational backup can be produced, and when a user is arbitrary, backup can be taken.

[0070] As explained above, it can back up through the message channel which was used for the telephone call concerned after the telephone call usual [through a public network] according to communication system according to claim 10, and a message channel can be secured specially, and backup processing can be performed.

[0071] As explained above, according to communication system according to claim 11, only difference is transmitted and an air time and the amount of data transmission can be suppressed.

[0072] Since transmission is not performed when there is no change in the information on the storage section according to communication system according to claim 12 as explained above, but useless transmitting processing is prevented, it is efficient.

[0073] This can be restored even if it can restore the content of the storage section of a fixed type communication terminal from a user's information which was backed up according to communication system according to claim 13 as explained above, and information is lost in a portable-type communication terminal.

[Translation done.]